

## Effect of human resource management systems on organizational performance emphasizing mediate effect of intellectual capital in employees of Electric power Distribution company of Shiraz in I.R.IRAN

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**Abstract:** Although modern information-based technologies affect increasingly on the various aspects of human life, it is believed that human resource is the main capital of each organization, especially knowledge-based ones. This survey is mainly aimed to investigate the relationship between human resource management systems and organizational performance emphasizing the mediate effect of intellectual capital in employees of Electric Distribution Company of Shiraz. This is a descriptive correlation survey in which 173 person of 314 employees of Electric Distribution Company of Shiraz were randomly selected. Data was collected by use of Likerts multiple – choice questionnaire. In order to analyze data, descriptive and deductive methods were used. According to the results, all of hypotheses were accepted. Therefore, there is a direct relationship between the all aspects of human resource management system and the elements of intellectual capital. Moreover, there is a direct relationship between the elements of intellectual capital and organizational performance.

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**Key words:** human resource management system, intellectual capital, organizational performance, path analysis

It is worth nothing that inter organizational synergy is based on the knowledge. Therefore, the organizations should use this synergy in order to evaluate their intangible assets. Evidences show that some organizations become bankrupt because they ignore the effects of intangible assets (Gupta et al, 2001). There are some ambiguities about the relationship between the human resource management system and the organizational performance. This issue, called "Black Box", explains the relationship between performance and human resource management system (Purcell et al, 2000).

It is believed that human resource management system affects on the organizational performance (Benson, Young & Lawler). Intellectual capital is another concept used in knowledge – based economy. Reviewing the literature relative to the intellectual capital, Engstrom, Vestenz & Fordal (2003) concluded that there is no suitable definition proportional to it. Today, it is believed that intellectual capital is described as an art instead of a science which includes on the mental factors and creativity (Lim et al, 2004). Intellectual capital of an organization includes all assets and intangible resources by which the organizations make values. For the first time, Knot Gal bight used this term in 1969. Intellectual assets, intangible assets and knowledge – based assets (Fetters, 2010).

In comparison with tangible assets, intangible assets are the main factor affecting on the

### 1. Introduction

The universe is full of God-given wealth. The creative employees should seek the opportunities appropriate to investing capital. Today, the employees know that life-based working is not an accepted criterion related to the business. Therefore, successful managers should pay attention to the various requirements of the employees. The prosperous companies prearrange some duties combined with the job in order to confirm that the managers affect the fulfillment of organizational objectives. In bureaucratic systems, the managers try to achieve more efficiency along with organizational hierarchy. In this regard, there are some unreliable relations between the persons (Islami&Sayar, 2006). Evidences, related to the assets of non – financial companies during 1978-1998 years show that the relationship between tangible and intangible assets has remarkably changed. The tangible/intangible assets ratios are respectively 80/20 and 20/80 in 1978 and 1998. This remarkable change causes the companies to present new methods in order to evaluate their assets from which the intangible assets (intellectual and knowledge) are of great importance (Sullivan et al, 2000). In this regard, the managers have perceived the importance of their intangible assets. From their viewpoints, the main commercial advantages include the development of marks, the relations of shareholders and the culture of the organizations (Kennan et al, 2004).

role in an organization and includes skills, training and experiences (Brennan et al, 2000).

Human capital includes the internal and external human resources of an organization. The first one includes all of the employees and the second includes all clients and suppliers (Petty et al, 2000). Due to their investigations, Bounties et al , 2000)concluded that there is a direct relationship between intellectual capital and the performance of a company. Evidences show that improvement of the employee s capabilities and abilities affects directly on the financial results of a company. Also, there is a direct relationship between human capital and the performance of a company.

Regarding the above mentioned, the managers can be assisted by recognition of factors affecting on the organizational performance. Therefore, this survey is mainly aimed to investigate the relationship between human resource management systems and organizational performance emphasizing the influence of organizational intellectual capitals among the employees of electric company of Shiraz.

Research hypotheses are:

- There is a direct relationship between human capital, organizational performance.
- There is a direct relationship between organizational capital and organizational performance.
- There is a direct relationship between organizational performance and intellectual capital.
- There is a direct relationship between Security human resources management system and human capital.
- There is a direct relationship between patterned human resources management system and human capital.
- There is a direct relationship between human resource management system of beside relations and intellectual capital.
- There is a direct relationship between humanistic management system of human resource and intellectual capital.
- There is a direct relationship between Documentary human resource management system and organizational capital.
- There is a direct relationship between Social human resource management system and organizational capital.

## 2. Material and Methods

Methodologically, this is a descriptive correlation survey. The population includes 341 employees of electric company of Shiraz. They include 52 assistants, managers and executives, 118 experts, 85 technicians and co – experts and 59 chiefs. After replacing the numbers in Kerjsi and

comparative advantage and knowledge – based economy (Tales et al, 2002). Intellectual capital provides the modern resource base by which an organization can compete with other organizations. It is also the term by which intangible assets, market, intellectual assets, human assets and sub-structural assets are defined. Intellectual capital includes all processes and assets which are not shown in the balance sheet and also all intangible assets which are not considered in the modern accounting methods (Russ et al, 1997; quoted from Ghelich Li & Moshbeki , 2006). In other words, intellectual capital is referred to the knowledge of the employees and its performance.

The followings are some definitions of "intellectual capital":

- Intellectual capital means a transitory subject by use of which the organization can compete with a new external resource.
- Intellectual capital means the total knowledge of the employees of an organization and its theoretical performance.
- Intellectual capital is referred to the difference between the market value of an organization and its expenses.
- Intellectual capital is referred to the intellectual factors including knowledge, information and spiritual asset by which the wealth is created.
- Intellectual capital means an intellectual element used for making money.

Human capital includes the knowledge of the employees of an organization. In other words, human capital refers to the factors such as knowledge, skill, capability and attitude of the employees by which the performance is improved. Intellectual capital causes the organizations rely on the knowledge and skill of their employees in order to make money and improve the productivity. Therefore, the employees are the main assets of an organization (Gelich Lee et al, 2009). Human capital is referred to the implicit knowledge of the employees and the basic resource of organizational innovation. It is defined as a set of capabilities, attitudes and creativity (Chen, 2004).

See Thurman (2002) concluded that logical capital means the current and future value of the relation between an organization and its clients. It is the potential of an organization based on the external intangible assets. Market capital is the capability of an organization related to the management of external connections.

Chen et al (2004) believed that organizational capital means the current system, structure and procedure of an organization's business. Personal capability of the employees plays a main

Table .2 Frequency of the population based on their educational class

Education	Frequency	Frequency percentage
Below diploma	18	9/9
Diploma	41	22/5
Associate of arts	43	23/6
Bachelor of arts	63	33/5
Master of arts	8	4/4
Unanswered	11	6
total	182	100

As illustrated in table 2, their academic paper is as the followings;

- Diploma= 41 persons (22.5%)
- Associate of arts = 43 persons (23.6%)
- Bachelor of Arts = 61 persons (33.5%)
- Master of Arts = 8 persons (4.4 %)

In this survey, the path analysis method has been used because it explores the effect of the variables and evaluates the direct/ indirect/ total relationships of them.

Table 3 includes the path criterions and the values of direct effects of independent variables on the organizational performance.

Table 3. The direct / indirect /total effects, the values of T-test and determined variance

Effects	Direct effects	Indirect effects	Total effects	T.V	variance
Organizational performance affected by:	---	-----	-----	---	0.39
Human capital	.30	-----	.30	2.56	
Organizational capital	0.40	-----	0.40	3.42	
Intellectual capital	.26	-----	.26	2.25	
Human capital affected by:	---	-----	-----	---	.12
Security human resource management system	.30	-----	.30	2.36	
Patterned human resource management system	0.36	-----	0.36	2.90	
Intellectual capital affected by:	---	-----	-----	---	0.18
human resource management system of beside relations	0.41	-----	0.41	3.49	
humanistic management system of human resource	0.38	-----	0.38	3.21	
Logical capital affected by:	---	-----	-----	---	0.07
Documentary human resource management system	.37	-----	.37	2.97	
Social human resource management system	0.29	-----	.29	2.28	

Morgan's formula, the sample included 173 persons. Finally, 182 out of 200 distributed questionnaires were collected.

In order to measure the variables, three five – choice questionnaires were used. The choices spectrum was between strongly agree and strongly disagree. The questionnaires included some questions about the organizational performance (Lutz et al, 1999; quoted from Neisari, 2010) and human resource management system (Koch&MC Grath , 1996). Also, Marvin's questionnaire (1993) was used. In order to examine the intellectual capital and the organizational capital,

Bounties's questionnaire and Walsh & Vinson's questionnaire were used, respectively. The Cronbach's  $\alpha$  test was used in order to estimate the reliability of the questionnaires (organizational performance, human capital, intellectual capital, organizational capital, human resource management system). The values of Cronbach's  $\alpha$  related to the questionnaires were .872, .798, .759, .861 and .815.

Moreover, the path analysis test and Lizrel software were used in order to analyze data. It is worth nothing that path analysis test was used by Sewall Wright for the first time as the multi – variable regression.

Using path analysis test, we can evaluate the direct / indirect effects of standard regression coefficients ( $\beta$ ).

### 3.Results

At first, the demographic characteristics of research are explained. Then, by use of descriptive statistics such as frequency percentage and charts we examine the characteristics of the sample.

Table .1 frequency distribution of sample based on their position

Position	frequency	Frequency percentage
Assistant/manager/executor	10	5/5
Chief of group/office	32	17/6
Expert/responsible expert	42	23/1
Co- expert/technician	60	33
Unanswered	38	20/9
total	182	100

In this survey, the population includes 10 assistants / managers/executives , 32 chiefs , 42 experts and 60 co – experts / Technicians . As shown in table above, this is to say that the population includes mostly co – experts / experts.

Table 4: the values related to the suitability of the model

Fit indexes	value
X2	52
DF	28
CFI	0/98
NFI	0/96
GFI	0/98
AGFI	0/94
RMSEA	0/042

- Where  $X^2/df = /89$  ,  $GFI = /98$  ,  $AGFI = /94$  , The values between %90 - %95 are acceptable.

-The RMSEA is a suitable criterion in structural modeling. The values below %8 are acceptable and the values more than %10 are not acceptable. The value estimated in the model is %42 and it is acceptable.

In this survey, the variance analysis test was used in order to test the position and organizational performance because the author has dealing with four groups.

Table 5 the variance analysis related to the position and the organizational performance

resources	Sum of Squares	DF	Mean Square	F	Sig.
Between group	4527/460	3	1509/153	6/556	0/001
Inter group	32228/700	140	230/205		
Total	36756/160	143			

There is a meaningful difference between the position and organizational performance. Therefore, F (df= 3, 140) is /001. Moreover, the variance analysis test was used in order to examine the difference between education and organizational performance.

Table 6 : the variance analysis for differences between education and organizational performance

Sig.	F	Mean Square	DF	Sum of Squares	resources
0/001	9/958	1965/479	4	7861/917	Between group
		197/373	166	32763/872	Inter group
			170	40625/789	Total

As seen in table above, the value of F (df = 4,166) is more than the needed value. Therefore, there is a meaningful difference between education and organizational performance.

- The human capital variable ( $p < 0.05$ ,  $T = 2.56$ ,  $\beta = 0.30$ ) affects directly on the organizational performance.
- The organizational capital variable ( $p < 0.01$ ,  $T = 3.342$ ,  $\beta = .26$ ) affects directly on the organizational performance
- The intellectual capital variable ( $p < 0.05$ ,  $T = 2.25$ ,  $\beta = 0.26$ ) affects directly on the organizational performance.
- The security human resource management system ( $p < 0.05$ ,  $T = 2.36$ ,  $\beta = .36$ ) affects directly on the human capital.
- The patterned human resource management system ( $p < 0.01$ ,  $T = 2.90$ ,  $\beta = .36$ ) affects directly on the human capital.
- The value of variance of human capital patterned by the variables of human resource management system is 0.12.
- The human resource management system of beside relations ( $p < 0.01$   $T = 3.4$ ,  $\beta = .41$ ) affects directly on the intellectual capital.
- The humanitarian management system of human resource ( $p < \%1$  ,  $T = 3.21$  ,  $\beta = .37$ ) affects directly on the intellectual capital.
- The documentary human resource management system affect directly on the organizational capital .

All of the above hypotheses are confirmed.

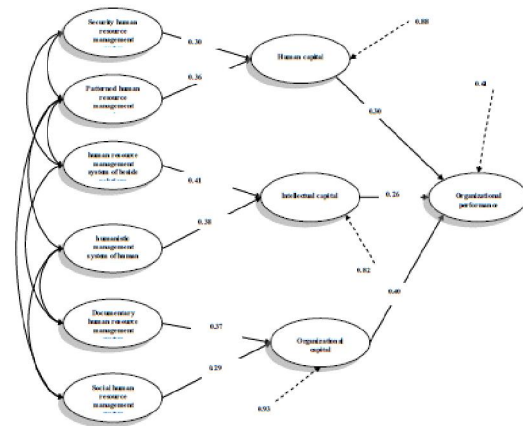


Figure 1. final model The model fit

The authors have different viewpoints relative to the fit of structural equation model. In this regard, the table below included some criterions used to evaluate fit of the model:

system and organizational capital. Therefore, the documentary human resource management system can improve the organizational capital. Organizational capital can be developed by updating electronic resume information related to the skills and experience of the employees. Therefore, organizations can increase organizational capital by use of documentary human resource management system.

Due to the results, there is a direct relationship between the social human resource management system and the organizational capital (Walsh & Ungson, 1991; Nonaka & Takeuchi, 1995). Walsh & Ungson (1991) concluded that in order to create organizational capital, the employees should trust each other, therefore, social human resource management system can increase the organizational capital. Regarding the relationship between human resource management system and organizational performance, the followings are suggested:

Because the human capital can promote organizational performance, the organizations should improve human capital.

Because the intellectual capital improves the organizational performance, it is suggested to develop it through establishing scientific seminars.

Regarding the direct relationship between security human resource management system and human capital, it is suggested to improve the human capital through engaging talented persons.

Regarding the direct relationship between the humanistic management system of human resource and intellectual capital, the organization should improve its intellectual capital through removing the obstacles and creating trust.

With regard to the direct relationship between the social human resource management system and the organizational capital, the organization should increase its capital through establishing informal sessions and various discussions at other places.

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#### **4. Discussions**

This survey explores the relationship between the human resource management system and organizational performance with regard to the mediating role of intellectual capital. Lawler & Benson (1992) and Yang & Lawler (2006) concluded that there is a direct relationship between human capital and organizational performance. Bounties et al (2000) examined the relationship between the elements of intellectual capital including human capital, organizational capital and logical capital.

They concluded that human capital and logical capital are the main factors affecting the business and structural capital affects on the performance of the business.

Angstrom, Stenz & Fordal (2003) regarded intellectual capital as a set of intangible assets including internal knowledge of the employees about the informational processes, internal and external capabilities, products, clients and competitors.

According to the results, there is a direct relationship between the security human resource management system and human capital (Koch & McGrath, 1996; Stewart, 1997).

Moreover, there is a direct relationship between the patterned human resource management system and human capital, so that the human capital can improve by use of the patterned human resource management system (Arthur, 1994; Huselid, 1995). Due to the results, there is a direct relationship between the human resource management system of beside relations and intellectual capital (McGill & Slocum). McGill & Slocum (1994) believe that the main relations are based on the entrepreneurship. With regard to the knowledge development, the main issue is to remove organizational obstacles (Mc Gill & Slocum, 1994).

Moreover, there is a direct relationship between the humanistic management system of human resource and intellectual capital. In other words, the intellectual capital of an organization can be improved with the help of humanistic management system. Pfeffer (1994) concluded that equalitarianism is focused on the decrease of obstacles and the creation of trust in an organization. An equalitarian organization has no job – classes. But, such organization can not perform its duty. There are some human resource management activities by which an organization can be guided. These activities include: the omit ion of power symbols, the creation of more suitable organization, the increase of job classes and the equalization of the employees' wages.

As Krawiec (1995) & Quinn et al (1996) concluded, there is also a direct relationship between the documentary human resource management

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